

Notice of Allowability

Application No.

10/561,533

Examiner

LaTanya Bibbins

Applicant(s)

UEDA, EIJI

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 20 December 2005.
2. ☒ The allowed claim(s) is/are 1-32.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Preliminary Amendment

2. Receipt is acknowledged of the preliminary amendment filed on December 20, 2005. In the amendment, claims 9-12 and 21-24 were amended and claims 25-32 were added. Currently claims 1-32 are pending.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the abstract:

Replace the abstract with the following

Abstract of the Disclosure

A focus control device including sensor means; error signal synthesizing means; arithmetic means having an error input portion generating a focus error value group, a disturbance addition portion for adding a first disturbance value group to a focus error value group and producing an output, a phase compensation portion performing at least a phase compensation calculation and an amplification calculation according to an amplification calculation gain on the output of the disturbance addition portion and generating a drive value group, a drive output portion generating a drive signal based on the drive value group, a response detection portion detecting a detection complex amplitude value based on the focus error value group, a second disturbance value group, and a third disturbance value group, and a gain modification portion for modifying the amplification calculation gain based on the detection complex amplitude value, a predetermined complex amplitude value, and a correction complex value.

Comments:

The abstract of the disclosure was amended because of its undue length. The abstract should be within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b). Thus, the abstract was reduced from 205 words to 150 words.

Allowable Subject Matter

4. Claims 1-32 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Regarding claims 1-32, none of the references of record, alone or in combination, suggest or fairly teach the limitations of independent claims 1, 5, 13, or 17 in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to disclose a focus control device or a tracking control device comprising, sensor means for receiving light reflected from an optical disk and outputting a plurality of sensor signals; error signal synthesizing means for arithmetically synthesizing the plurality of sensor signals and generating a focus or tracking error signal; arithmetic means comprising an error input portion for generating a focus or tracking error value group based on the focus or tracking error signal, a disturbance addition portion for adding a first disturbance value group that has periodicity to the focus or tracking error value group that is generated by the error input portion and producing an output, a phase compensation portion for performing at least a phase compensation calculation and an amplification calculation according to an amplification calculation gain on the output of the disturbance addition portion and generating a drive value group, a drive output portion for generating a drive signal based on the drive value group, a response detection portion for detecting a detection complex amplitude value based on the focus or tracking error value group that is generated by the error input portion, a second disturbance value group that has the same periodicity as the first disturbance value group, and a third disturbance value group that has the same periodicity as the second disturbance value group and a phase that is shifted from a phase of the second

disturbance value group, and a gain modification portion for modifying the amplification calculation gain; driving means for outputting a driving current that is substantially proportional to the drive signal; and a focus or tracking actuator for driving an objective lens according to the driving current, wherein the gain modification portion modifies the amplification calculation gain based on the detection complex amplitude value, a predetermined complex amplitude value, and a correction complex value for correcting the predetermined complex amplitude value, and wherein a phase of the correction complex value is substantially identical to a phase or antiphase of the first disturbance value group in the disturbance addition portion.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of Relevant Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimamura et al. (US PGPub Number 2002/0009026 A1) disclose a configuration of an automatic gain control section. The error signals such as the tracking error signal TE and the focusing error signal FE are converted into digital error signals in an analog-to-digital (A/D) converter and then supplied to a summation circuit.

A sinusoidal wave generator generates a sinusoidal wave of a gain control frequency as a disturbance signal, which is in turn added to the aforementioned error signals in the summation circuit. The disturbance signal circulates the servo loop and the resulting signal is supplied to a band-pass filter (BPF), the component of a predetermined band being supplied to a phase comparator. The phase comparator compares phases between a signal from the BPF and the disturbance signal from the sinusoidal wave generator to obtain a phase difference. The resulting phase difference is supplied to a determination/adjustment section. In this section, the gain (K_g) of an amplifier is adjusted to fall within a predetermined range with respect to the phase designated by the controller.


Yamamoto et al. (US Patent Number 6,028,826) disclose an optical disk apparatus including a tracking error detection device that detects a positional offset between the converged light beam and the track based on a phase difference between first and second addition signals and outputs a tracking error signal indicating the positional offset. The first addition signal is obtained by adding the first correction signal and the fourth detection signal. The second addition signal is obtained by adding the second correction signal and the third detection signal. A tracking control device performs feedback control of the moving device so that the light beam converged on the recording medium is positioned on the track, based on the tracking error signal. An adjustment device adjusts the correction amount for the phase correction device based on an asymmetry level based on the tracking error signal without causing the tracking control device to perform feedback control.

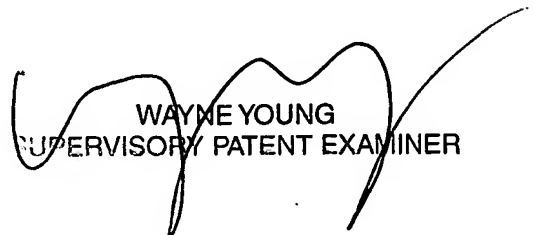
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


LaTanya Bibbins


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER